

What is claimed is:

1. A method comprising the steps of:

providing a digital watermark signal;

5 thresholding the digital watermark signal to yield a set of position points; and

arranging message objects in accordance with the position points.

10 2. The method according to claim 1, wherein the message objects comprise at least one of color level, gray-scale level, luminance value and contrast, to distinguish the message objects from a background or other objects.

15 3. The method of claim 2, wherein the message objects comprise at least one of cuts in a field, flowers, marbles, bottle caps, cups, umbrella, crops, grass, balloons, coins, and pictures in a photo-mosaic.

4. The method of claim 2, wherein the message objects comprise at least one of an image segment and a digital image.

20 5. The method of claim 1, where the message objects are arranged to form at least part of an image.

25 6. A document including at least a substrate and a digital watermark signal carried by the substrate, the digital watermark signal comprising a set of relevant points identified through reducing a pure digital watermark signal to the set of relevant points, the set of relevant points comprising location positions relative to the substrate, wherein objects are arranged on the substrate according to the set of relevant points to convey the digital watermark signal.

7. The document of claim 6 wherein the document comprises an image.

8. The document of claim 6 wherein the document comprises a photo-mosaic.

5 9. The document of claim 8, wherein the objects comprise photographs.

10. A method comprising the steps of:

providing a digital watermark signal;

10 reducing the digital watermark signal to yield a set of spatial placement positions, the set of spatial placement positions comprising a placement map; and

arranging message objects in accordance with the placement map.

11. The method of claim 10, wherein once arranged, the objects convey the digital watermark signal.

12. The method of claim 11, further comprising arranging non-message objects to form an image or design, the non-message objects differing from the message object in at least one of color, contrast, gray-scale and luminance.

20 13. A method comprising:

providing a digital watermark signal;

reducing the digital watermark signal to a set of spatial positions relative to a fixed area;

arranging a first set of photographs within the fixed area according to the set of spatial positions;

25 arranging a second set of photographs within the fixed area to complete a photo-mosaic, wherein the first set of photographs are subtly distinguishable from the second set of photographs.

14. The method of claim 13, wherein the first set of photographs is subtly distinguishable by at least one of color, contrast, gray-level and luminance.

5 15. The method according to claim 14, wherein the arrangement of the first set of photographs conveys the digital watermark signal.

16. A method comprising:
in a security document design process, providing an accessory layout grid, the layout grid identifying a digital watermark component; and
10 defining a document design based at least in part by the digital watermark component.

17. The method of claim 16, wherein the component comprises a digital watermark bias.

18. The method of claim 16, wherein the component comprises luminance information.
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19. The method of claim 18, wherein said defining step comprises arranging on the document at least one of objects, background texture, lettering and patterns according to the luminance information.
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